



ACID RAIN

IIITN

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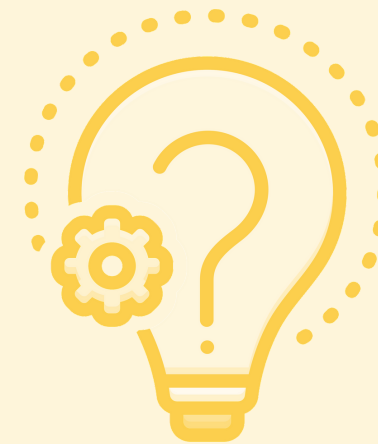
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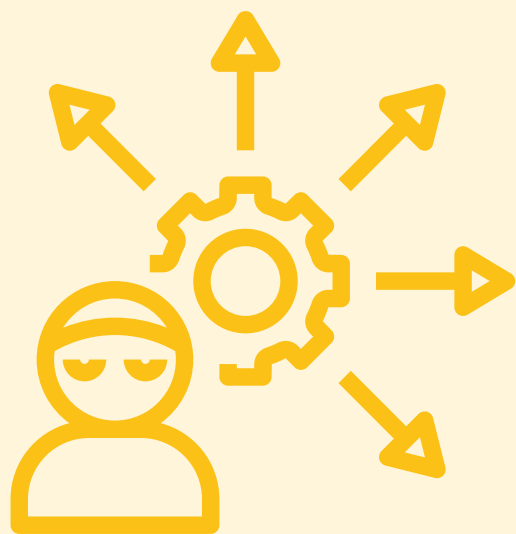
TOPIC OUTLINE



DEFINITION



CAUSES



EFFECTS

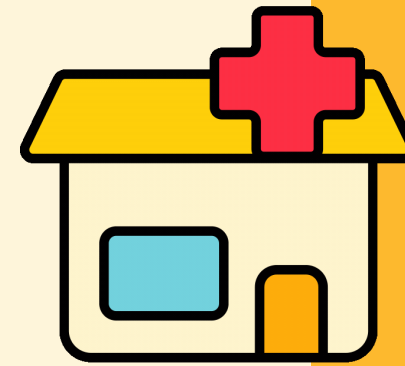


SOLUTIONS

OBJECTIVES



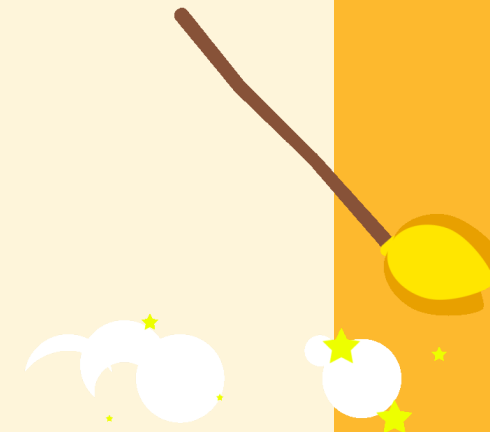
Students will learn how acid rain is an air pollution problem that travels with the winds from west to east.



To achieve significant environmental and public health benefits through reductions in emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), the primary causes of acid rain.

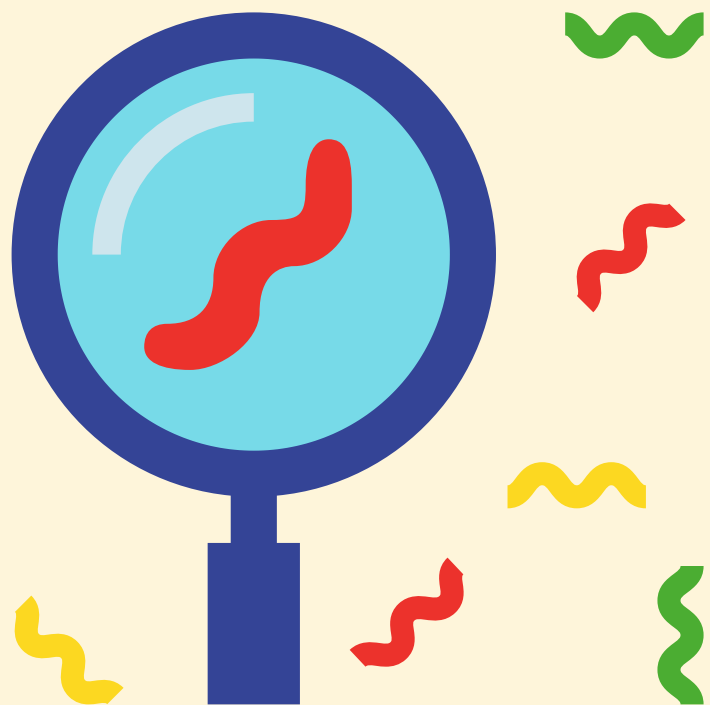


Improve Access to Clean and Safe Water



Promote Materials Management, Waste Management, and Clean Sites

DEFINITION



DEFINITION

- Acid rain refers to any type of rainfall that contains high levels of nitric and sulfuric acid.



OCCURENCE

- It can also occur in the form of ice, fog, and small pieces of dry matter that live on Earth.
- Normal rain is slightly acidic, with a pH of 5.6, while acid rain usually has a pH between 4.2 and 4.4.





CAUSES



CAUSES

NATURAL

Decaying vegetation
and volcanic eruptions

FOSSIL FUELS

Sulfur dioxide (SO₂) and
Nitrogen oxides (NO_x) are
released into the
atmosphere

INDUSTRIAL

Chimneys, heat from
machines.

Vehicles and Household
Release also contributes



EFFECTS



PLANTS

Hampers growth and Reproduction.

SOIL

Affects productivity

FOOD

Spoils Crops and Vegetables.

WATER

Increases pH in lakes & ponds.

ARCHITECTURE & BUILDINGS

Reacts with the minerals and corrode them away. Makes them weak.

ANIMAL

Skin Problems, Metabolism affected,
Diseases, Cancer.



ACID RAIN TESTS



PH LITMUS TEST

After the rain has stopped, you could dip some litmus paper in the glass of rain and by comparing the color change in the paper to a corresponding chart, it would tell you the pH of the rain!



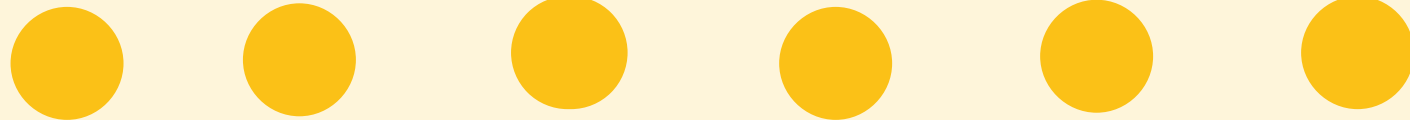
ACID-BASE INDICATORS

Use of a pH-meter. Pure water is neutral, and therefore has a pH of 7. Unpolluted rain has a pH around 6 to 5.5. It is slightly acidic because some carbon dioxide is always dissolved on it.





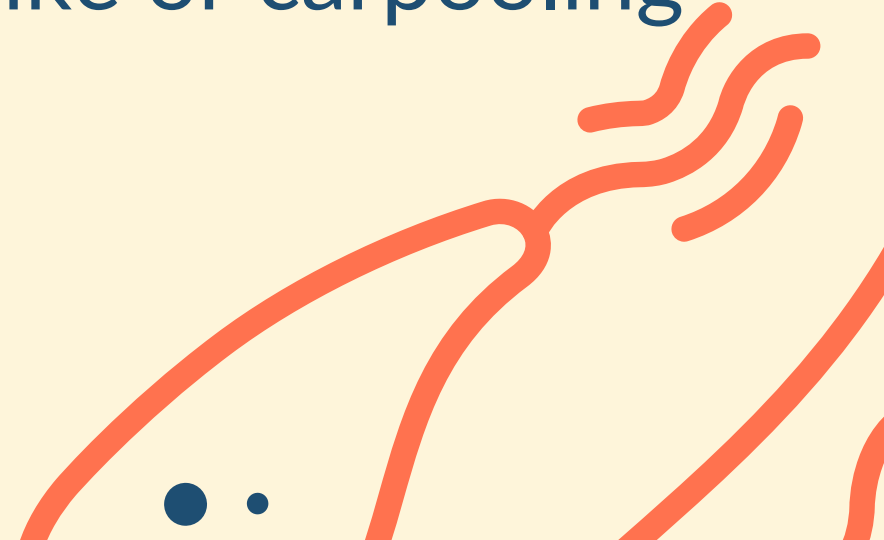
SOLUTIONS



COMBAT

The only way to combat acid rain is to stop the pollution. This means burning less fossil fuels and setting air quality standards.



- Regulating the emissions coming from vehicles and buildings is an important step. This can be done by restricting the use of fossil fuels and focusing on more sustainable energy sources such as solar and wind power.
 - Using public transportation, walking, riding a bike or carpooling is a good start
- 
- Red wavy lines and a blue dot in the bottom right corner of the page.

DIAGNOSIS



Driving cars and trucks also produces large amounts of nitrogen oxides,



Thermal Power Plants produces large amounts of CO₂ and CO.

TREATMENT



Do Carpooling. Use cycle or take a walk sometimes.



Turn off lights, computers, televisions, video games, and other electrical equipment when you're not using them.

CONCLUSION



Acid rain is a very important issue that has bad effects in the environment. There would be many health problems that could be avoided, if acid rain became a little less of a problem. We can help to stop this acid rain by a very simple way which is not polluting the air. As they said Prevention is better than cure.

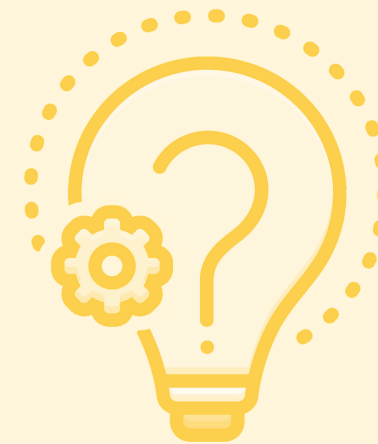
SMOG



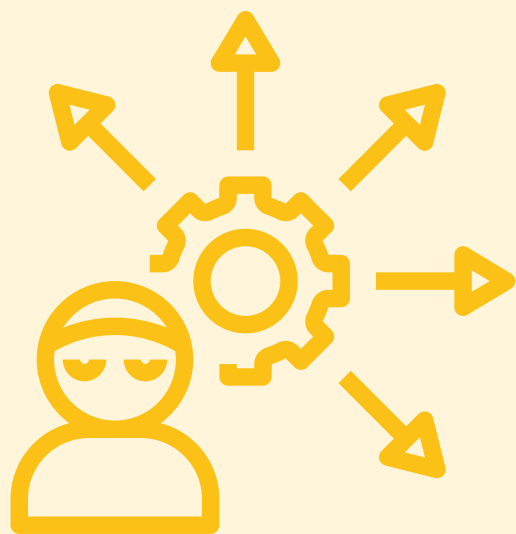
TOPIC OUTLINE



DEFINITION



CAUSES



EFFECTS



SOLUTIONS

OBJECTIVES



Improved understanding of indoor air pollution.



Identification of potentially harmful species in indoor air.

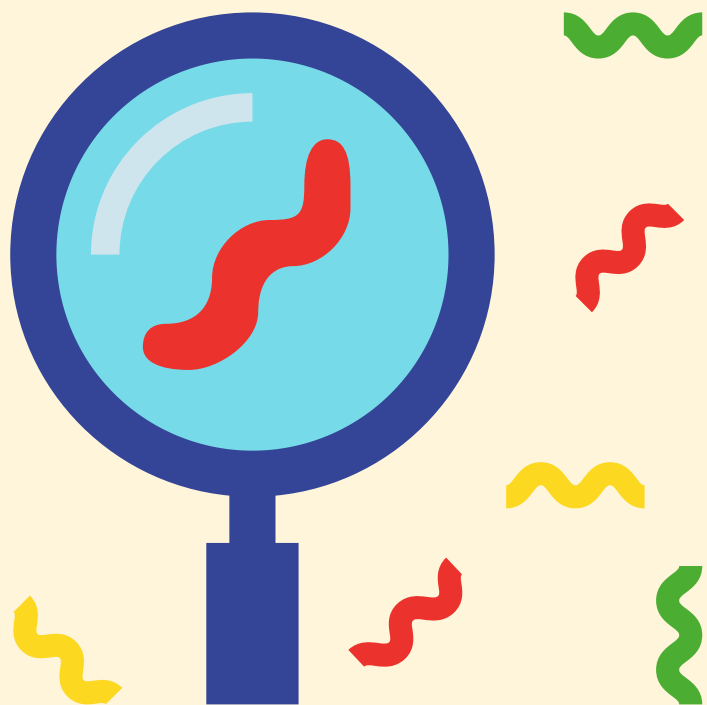


Explain the effects of smog.



Knowledge transfer towards policy makers and other stakeholders with an interest in indoor air quality.

DEFINITION



DEFINITION

- The terminology refers to a mixture of liquid and solid fog and smoke particles.
- Usually seen as yellowish or blackish fog, which remains suspended in the atmosphere or forms a ceiling in the air.



OCCURENCE

- It happens when fume, emissions, and particulates (nitrogen and sulfur oxides and volatile organic compounds) react in the presence of sunlight to form ground-level ozone.



- Human-made smog is derived from coal emissions, vehicular emissions, industrial emissions, forest and agricultural fires and photochemical reactions of these emissions.





CAUSES



CAUSES

FACTORIES

Smoke from Chimneys consisting of Carbon Monoxide, Sulphur oxides and Nitrogen oxides.

VEHICLES

Contributes up to 50% in cities. Release various gases directly in the lower atmosphere.

STUBBLE BURNING

Punjab & Haryana major contributors in India.



EFFECTS



PLANTS

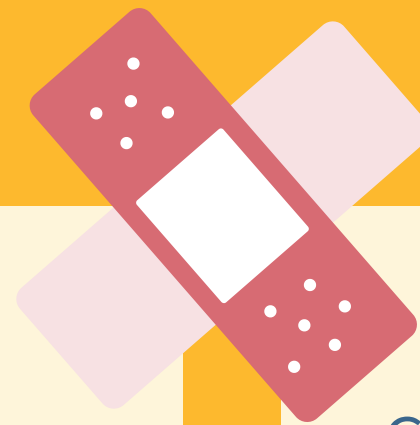
Interferes with ability to fight infection. Inhibits growth

VISIBILITY

Makes the sky brown or gray.
Problem for drivers and pilots to navigate.

CLIMATE

Winters become colder due to the blockage of sunlight and causes widespread air pollution covering cities in dome shaped layers.



PUBLIC HEALTH

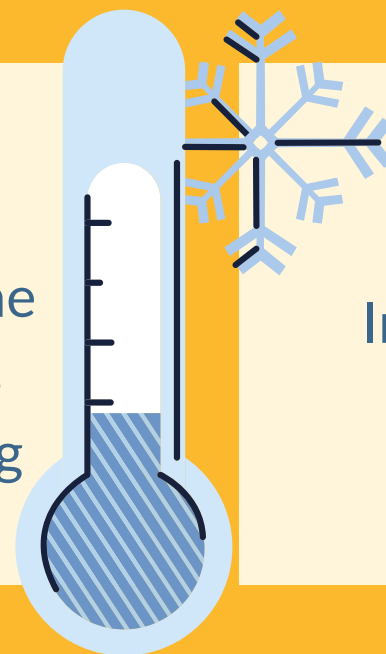
Coughing, allergies and irritation of the eyes, chest, nose and throat.
Premature deaths because of respiratory and cancer diseases.

FORESTS

The ozone in smog inhibits plant growth and causes widespread damage.

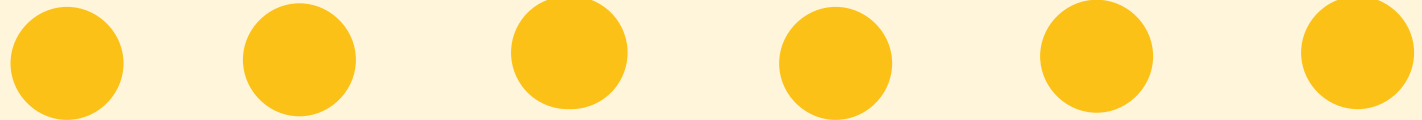
ANIMAL

Irritates sensitive tissues. Has the potential to wipe out species.





SOLUTIONS



CHANGE IN HABITS

Drive slowly. Take a walk, bike, carpool, and use public transportation whenever possible.



- Take care of cars. Getting regular repairs, changing oil on time, and inflating tires can improve mileage and reduce pollution.
- Avoid products that emit high levels of VOCs. For example, use low-VOC paints.
- Avoid outdoor gas appliances, use electrical appliances instead.



CONCLUSION



Delhi is supposed to be the most polluted city on Earth. Smog's cause lung diseases and increase the death rate. According to one estimate, air pollution causes the death of about 10,500 people in Delhi every year. The Earth is changing for the worse, and it's the fault of the human race. Now it's a race against time to try to purify our planet before it is destroyed.

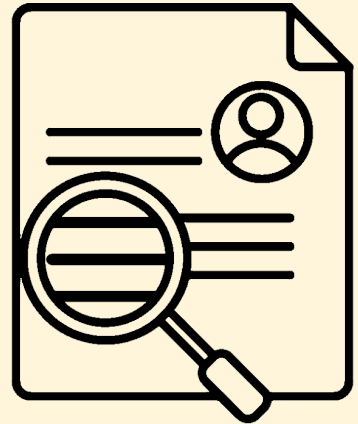
THANK YOU FOR LISTENING!



REFERENCES



INFORMATION FROM GOOGLE



FACTS FROM SCIENTIFIC PAPERS



CONTENT BY OURSELVES